City of Edmonds
Development Information

STORMWATER MANAGEMENT (SWM) DRAINAGE SYSTEM DESIGN, AND EROSION & SEDIMENT CONTROL REQUIREMENTS

Stormwater runoff from development, redevelopment, and construction sites is regulated under Edmonds Community Development Code (ECDC) Chapter 18.30, including Exhibit A: *Edmonds Stormwater Code Supplement (Supplement)* and 2005 Department of Ecology Manual

Overall Stormwater Management Approach

This handout contains an overall summary of the requirements and options available to assist an applicant in designing, constructing, and maintaining stormwater Best Management Practices (BMPs) in the City of Edmonds to meet the intent of ECDC 18.30. The Stormwater Code Supplement is available for use in our Development Services Department as well as on the City's Website (www.edmondswa.gov). Please refer to the Supplement for a more detailed explanation of each requirement. Applicants are encouraged to use the Classification Worksheet on page 5 of this handout to help determine the requirements for their project.

Step 1 – Determine Applicability

The first step is to determine if the Stormwater Management code applies to your project. Use Figure-A, page 3, in this handout to establish whether your project or site meets any of the criteria for "applicability".

Step 2 – Determine Your Project Site's Classification and Watershed

Determine if your site is classified as a Large Site Project by using Figure-B, page 4. If you have a Large Site Project, you do not have to fill out the Classification Worksheet, page 5 of this handout.

If you do not have a Large Site Project, use the Classification Worksheet, page 5 and Figure-B, page 4, to determine whether your project is considered a Small or Minor Site Project. For Small Site Projects, you will further need to determine whether it is a Category 1 or a Category 2 project. Next, identify the watershed for your Small or Minor Site project using the City of Edmonds Watershed Map, Figure-C, page 7. This will clarify some of the site-specific requirements in Step 3.

Step 3 – Determine the Minimum Requirements Needed and Where on the Site They Apply

The minimum requirements are based on the project classification determined in Step 2. A summary of the Minimum Requirements can be found on page 2 of this handout. For specific site requirements for each classification refer to Stormwater Code Supplement.

Step 4 – Plan Your Site and Select BMPs

Plan your site and select BMPs as described in the Supplement to meet or exceed the minimum requirements for your project.

Step 5 – Submit Reports and Plans for Review

Submit all required reports and plans for review. The handout for the appropriate classification of your project (Large, Small or Minor Site) will provide information regarding the submittal requirements. The stormwater submittals will be reviewed concurrently with all other permit submittals. Revisions to reports and plans may be required per City of Edmonds review.

Step 6 – Construction

Erosion & Sediment Control Measures must be inspected and approved by the City's Engineering Division prior to the start of construction. The project shall be constructed per approved plans. Any changes proposed to the approved plans must be submitted to the Engineering Division for review and approval prior to construction.

Step 7 – Operate and Maintain BMPs

Operate and maintain BMPs as required by the approved submittals.

Overview of Stormwater Management Minimum Requirements

Depending on the type, location, and size of the proposed project, different combinations of these minimum requirements apply. The following is a brief list of the overall Minimum Requirements for Large, Small, and Minor sites. Please refer to the Stormwater Code Supplement for additional information.

LARGE SITES – *Stormwater Supplement Chapter 4*

A project or overall development involving 1 acre or more of ***land disturbing activity*** would potentially require the following Minimum Requirements:

1. Preparation of Stormwater Site Plan
2. Construction Stormwater Pollution Prevention Plan
3. Source Control of Pollution
4. Preservation of Natural Drainage Systems and Outfalls
5. Onsite Stormwater Management/Low Impact Development Techniques
6. Runoff Treatment
7. Flow Control
8. Wetland Protection
9. Operation and Maintenance
10. Offsite Analysis and Mitigation
11. Financial Liability

SMALL SITES – Category 1 and 2 - *Stormwater Supplement Chapter 5*

Small Site Minimum Requirements, #'s 1-11 listed below, may be required for projects that involve:

A) 2,000 square feet (sf) or more of regulated ***new*** plus ***replaced impervious surface;*** **or**
B) 7,000 sf or more of ***land-disturbing activity;*** **or**
C) 50 cubic yards (cy) or more of grading, fill or excavation; **or**
D) Conversion of ¾ acre or more of native vegetation to lawn or landscaped area; **or**
E) Causes an increase of 0.1 cubic feet per second (cf/s) or more in the 100 year flow frequency from a threshold discharge area.

1. Preparation of Stormwater Site Plan including:
2. Erosion and Sediment Control Plan
3. Source Control of Pollution
4. Preservation of Natural Drainage Systems and Outfalls
5. Onsite Stormwater Management/Low Impact Development Techniques
6. Runoff Treatment
7. Flow Control
8. Wetland Protection
9. Operation and Maintenance
10. Offsite Analysis and Mitigation
11. Financial Liability

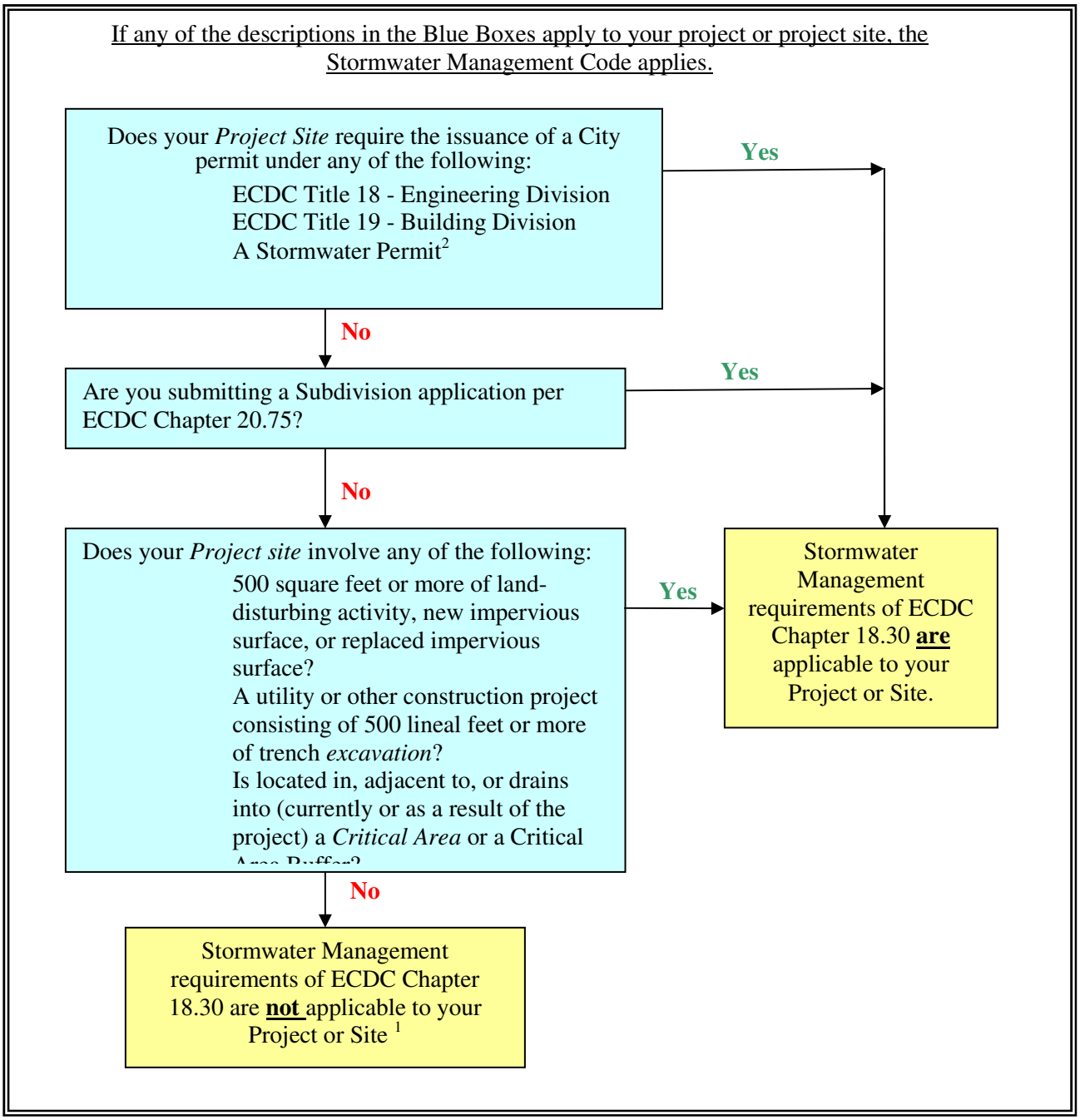
MINOR SITES – *Stormwater Supplement Chapter 6*

A project that involves 500 sf or more of new development or redevelopment including land-disturbing activity or a utility project that causes land disturbance, and is not considered a Large or Small Site Project, must employ Minor Site Construction Stormwater Pollution Prevention Practices. Additional Requirements may be imposed to meet the intent of the Stormwater Code based on site specific factors.

Note: Terms in bold italics are described in the Glossary on pages 10-11. Definitions are found in ECDC Chapter 18.30.010 and the Stormwater Code Supplement.

Figure-A

Determining Applicability of Stormwater Management Code ECDC Chapter 18.30



Note: The definitions of the terms in italics are found in ECDC Chapter 18.30.010 and the Stormwater Code Supplement.

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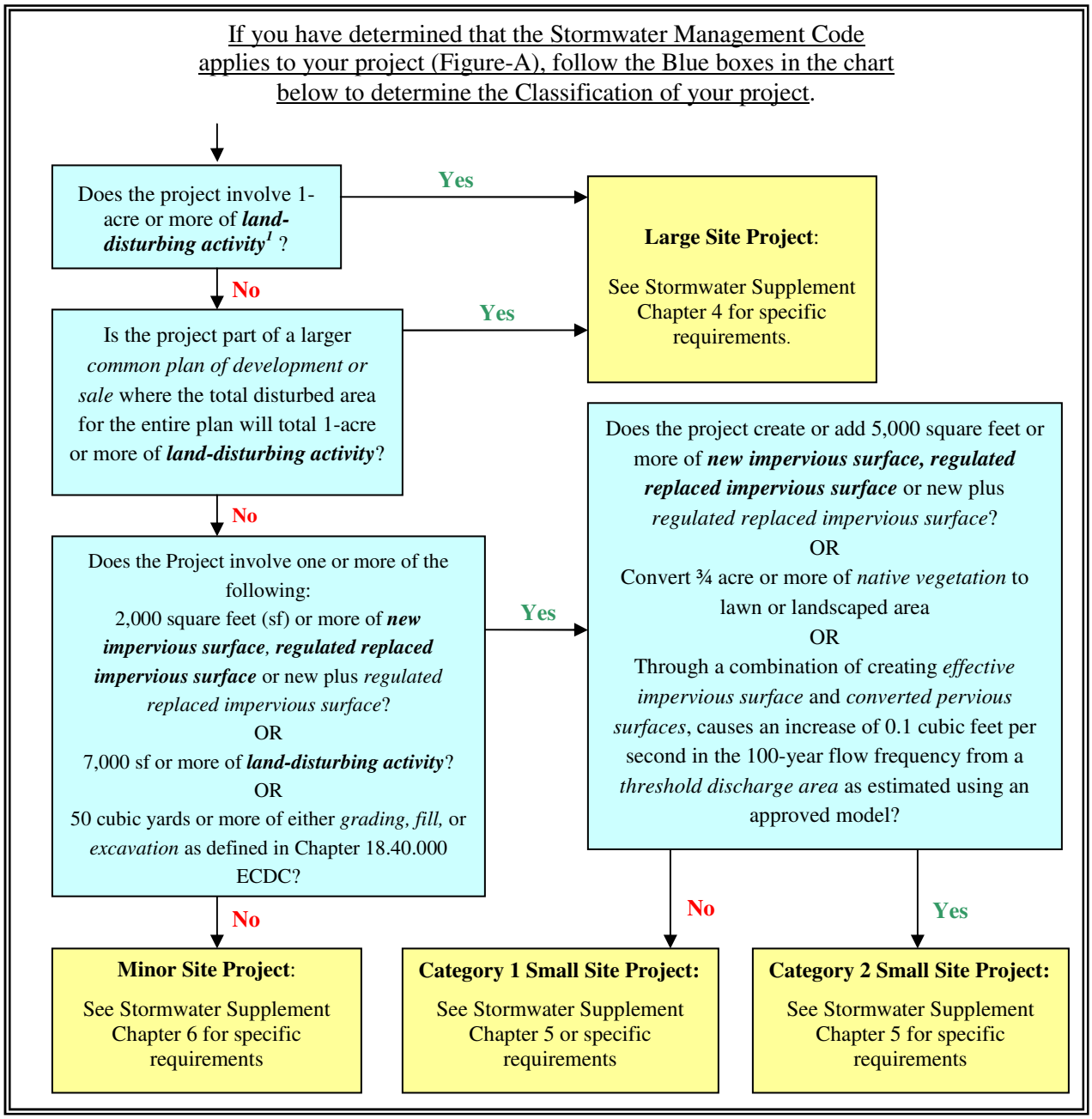
[1] This chart provides an initial screening for determining the applicability of ECDC Chapter 18.30. The results from using this chart do not substitute for a determination of applicability by the Public Works Director or Designee per ECDC Chapter 18.30.030 and the relevant portions of the Supplement.

[2] If ECDC Chapter 18.30 is applicable to the proposed project and it does not require any other City-issued permit, a Stormwater Permit and associated fees will be required.

Figure-B

Project Classification



Notes:

Terms in bold italics are described in the Glossary on pages 10-11. The definitions of the all terms in italics are found in ECDC Chapter 18.30.010 and the Stormwater Code Supplement

The Classification flowchart assumes the project in question meets the applicability requirements of ECDC18.30.030.

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[1] Land-disturbing Activity: Any activity that results in the movement of earth, or a change in the existing soil cover (both vegetative and non-vegetative) or the existing soil topography. Land disturbing activities include, but are not limited to grading, filling, excavation, and compaction associated with stabilization of structures and/or road construction.

City of Edmonds
Site Classification Worksheet

The project's Site Classification will dictate the specific stormwater management requirements applicable to your site. Completing this worksheet will help determine the amount of regulated impervious surface and whether your project falls into the classification of a **Small Site** (Category 1 or Category 2), or a **Minor Site**. Please reference the Glossary (pp. 10-11), Figures D and E, (pp. 8-9), and Examples (pp. 11-12), to assist with completion of this worksheet.

1) Is Permeable Pavement[1] Proposed For Use on this Site? ☐ Yes ☐ No
Refer to Stormwater Supplement Chapter 5.1

If **YES**, the subject area is to be considered impervious for initial site classification purposes. Include total permeable pavement area in the calculation of Non-Regulated, Replaced and/or New impervious surface areas in the table below.

2) Determine the Amount and Type of Existing & Proposed Impervious Surface for the Site
Refer to Stormwater Supplement Chapter 2 and Fig. C

Line 1: Identify the **Non-Regulated Impervious Surface Area.**

Line 2: Identify the **Replaced Impervious Surface Area**, dividing the total between Exempt and Regulated; either or both may be zero. Note: For project classification purposes, **Replaced Impervious** may only be considered exempt under certain conditions. Refer to the Glossary and Figure D.

Line 3: Identify the **New Impervious Surface Area** for your project. All impervious areas created post-July 7, 1977 or after the date of annexation into the City are regulated & should be included in this total unless they can be categorized separately as a Replaced-Regulated area.

Line 4: Enter the sum of the total Replaced-Regulated **plus** the total New impervious areas.

Line 5: Identify the total area currently mitigated by an existing city-approved stormwater management system.

Line 6: Enter the sum of the value in Line 4 less the value in Line 5 to identify the total Regulated area in which stormwater controls have not yet been applied.

Line 7: Identify the total area proposed to be mitigated through the use of Low Impact Development Techniques.

Line 8: Identify the total area proposed to be mitigated through conventional Stormwater Management Techniques.

**** Provide a copy of the following table on the drainage plan sheet for the proposed project ****

Line	Type	Area (square feet)		
1.	Non-Regulated			
		Exempt		Regulated
2.	Replaced			
3.	New (Post 1977)	→ → → → → → → → →	+	
4.	Total Regulated Impervious Area *Mitigation required if in excess of 2000sf*		=	
5.	Total Area Mitigated by Existing Stormwater Management System(s)		-	
6.	Regulated Area Not Yet Mitigated		=	
7.	Area Proposed to be Mitigated by Low Impact Development Techniques		=	
8.	Area Proposed to be Mitigated through Conventional SWM Techniques		=	

[1] (e.g. porous asphalt, porous concrete, paver blocks, concrete open celled paving grids, or plastic lattices filled with turf or stone)

City of Edmonds
Site Classification Worksheet

3) Determine the Total Area of Land Disturbing Activity _____ **sf**
Refer to Stormwater Supplement Chapter 8

4) Determine the Quantity of Grading, Fill and/or Excavation _____**cy**

5) Will the project convert ¾ Acre or More of Native Vegetation to Lawn or Landscaped Area? ☐ **Yes** ☐ **No**

6) Identify the Watershed the Existing Site Runoff Discharges to
Refer to Stormwater Supplement Chapter 2.3

Based on Site Location and Watershed Map – Figure-C. Check all that apply.

A. ☐ Direct Discharge

- ☐ Edmonds Way Basin
- ☐ Puget Sound Basin
- ☐ Puget Sound Piped Basin

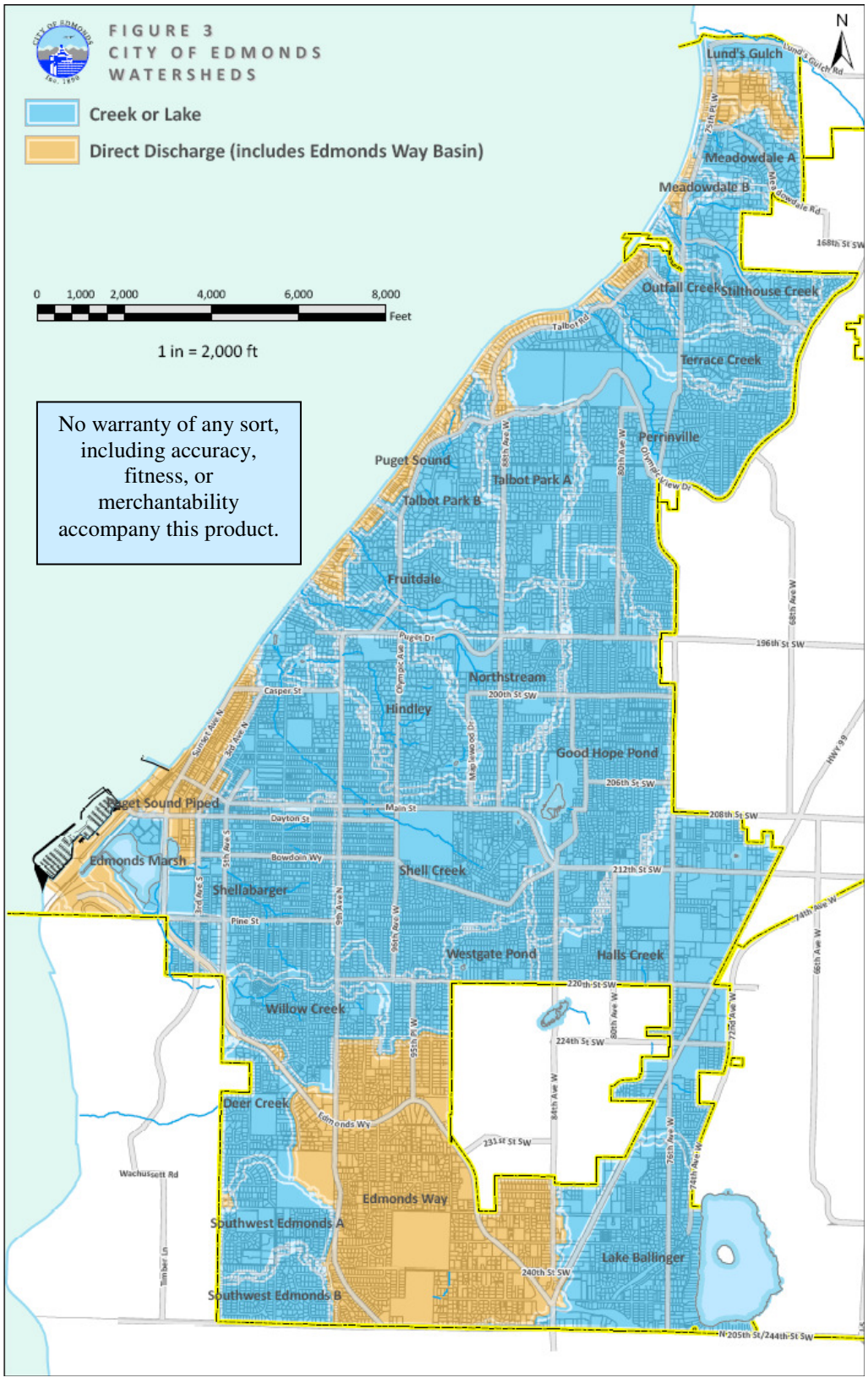
B. ☐ Creek or Lake Basin

DETERMINE PROJECT CLASSIFICATION USING THE INFORMATION ABOVE AND THE **PROJECT CLASSIFICATION CHART** (Figure B, pg 4)

☐ **Small Site - Category 1**	☐ **Small Site - Category 2**	☐ **Minor Site**
Stormwater Supplement Chapter 5	*Stormwater Supplement Chapter 5*	*Stormwater Supplement Chapter 6*

Figure-C

City of Edmonds Watersheds[2]



[1] A larger version of the Edmonds Watershed Map is available in the Development Services Office and on the City of Edmonds website at ci.edmonds.wa.us.

Figure-D
What Qualifies as Replaced Impervious Surface?

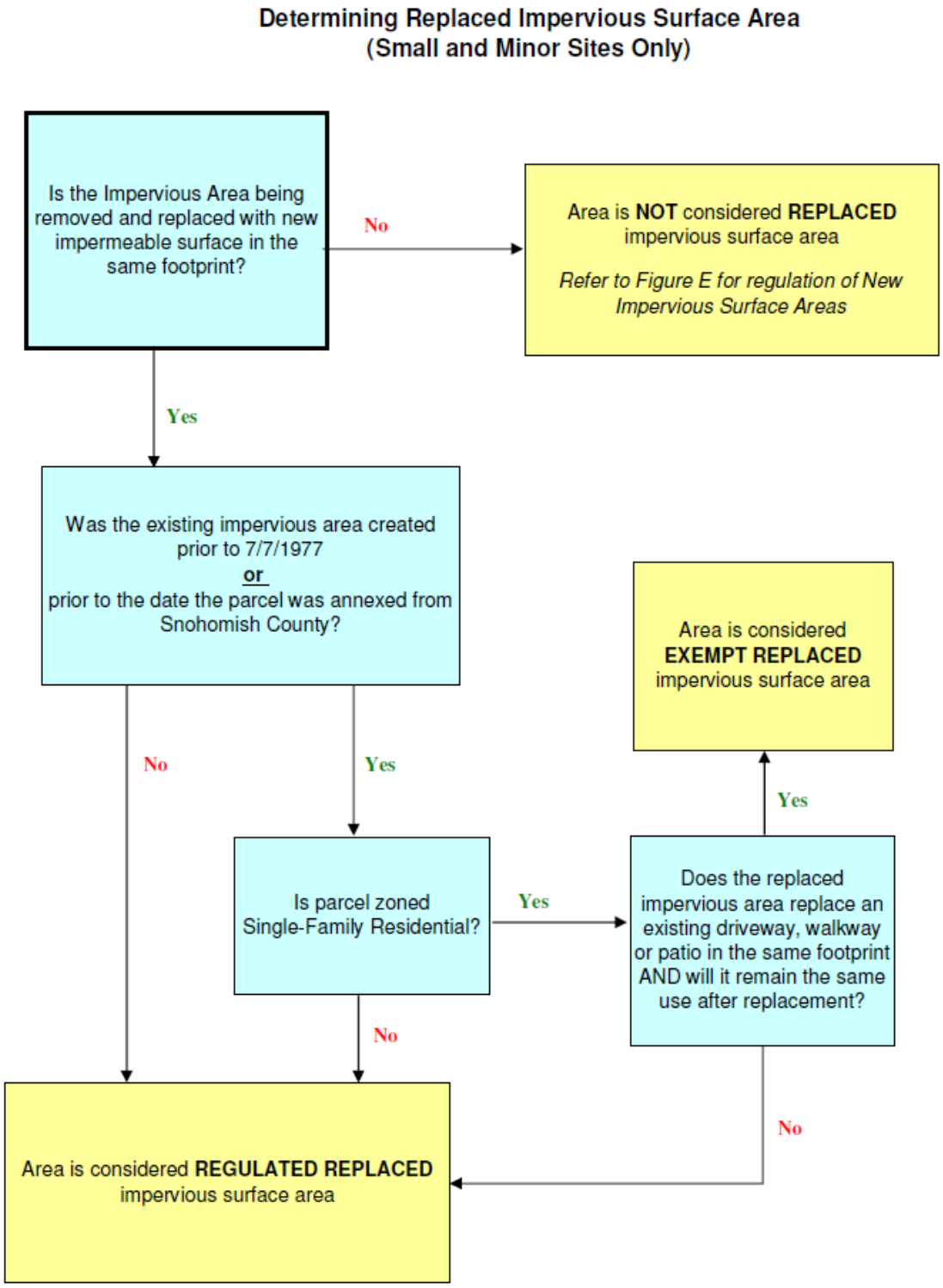
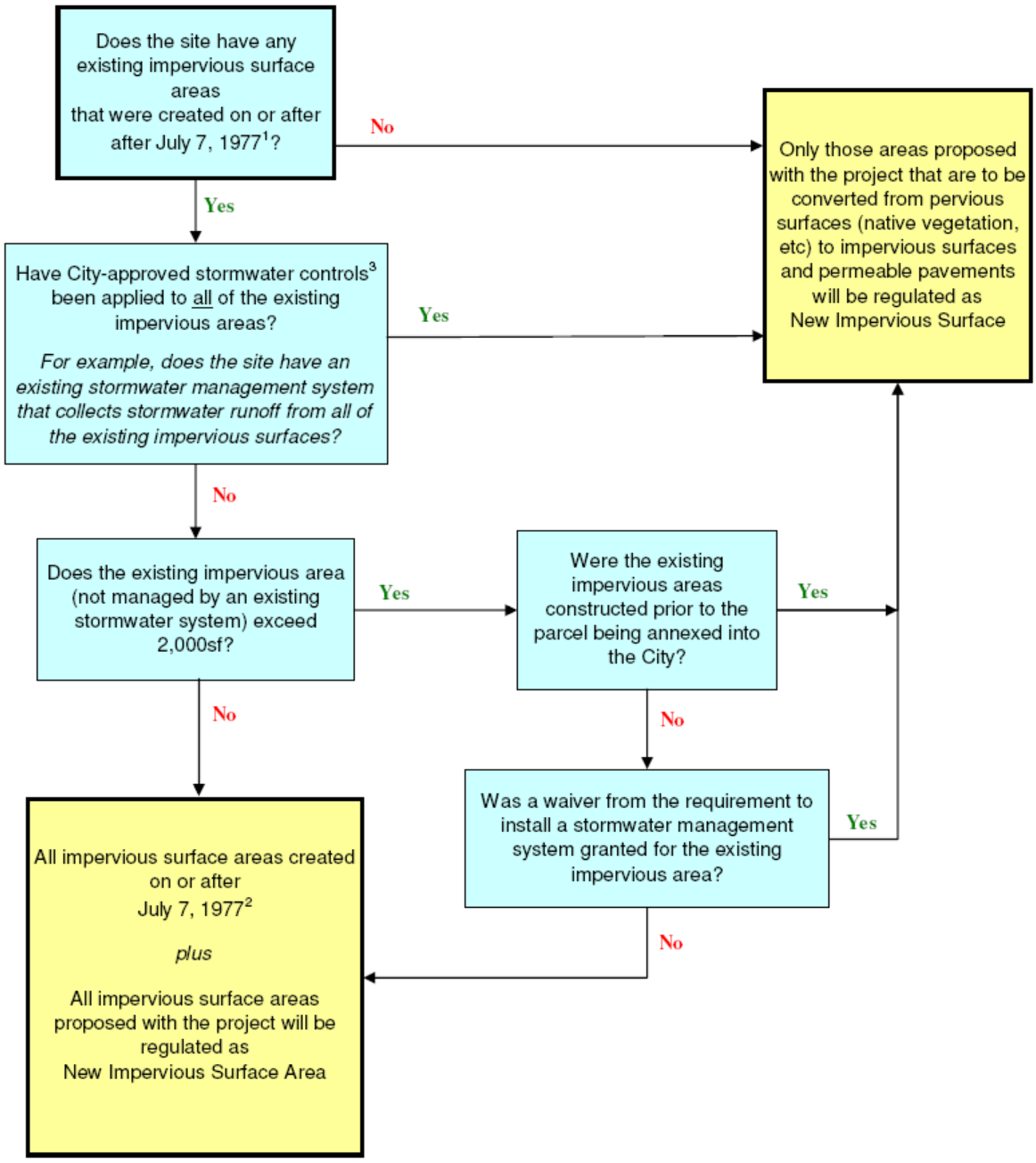


Figure-E
Regulation of NEW Impervious Surface Areas for Determining Site Classification



Note: For the purpose of this flowchart, it is assumed that all existing impervious surface will remain after the proposed project is complete. If any existing impervious surface will be demolished for this project, the project may contain a combination of new and replaced impervious surface. See Glossary, p. 10-11.

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[1] Mitigation requirements are based on the total cumulative impervious area created on a project site since July 6, 1977, the effective date of the City's first drainage control ordinance.

[2] For parcels that were annexed into the City after this date, the date of annexation shall substitute for the effective date of the City's first drainage control ordinance.

[3] For annexed parcels, a functioning Snohomish County-approved stormwater management facility can substitute for a City-approved facility.

Glossary

This glossary provides explanations of the terminology used in this handout. The actual definitions can be found in ECDC Chapter 18.30.010 or the Supplement.

Impervious Surface: Hard surface area that either prevents or retards the entry of water into the ground as it would occur in natural, undeveloped conditions. Impervious surfaces include, but are not limited to, rooftops, driveways, walkways, concrete, asphalt, and packed earthen materials. Decks will be considered impervious if one or more of the following apply:

- Deck is made of "solid" material that does not allow rain water to run through it
- Deck has "slots" where rainwater can run through but the ground under the deck does not allow the rainwater to infiltrate into the ground.

Open, uncovered retention/detention facilities shall not be considered impervious surfaces for purpose of determining whether the thresholds for application of minimum requirements are exceeded. However, open, uncovered retention/detention facilities shall be considered impervious surfaces for purposes of runoff modeling.

Outdoor swimming pools shall be considered impervious surfaces in all situations.

For the purpose of determining stormwater control requirements, impervious surfaces are divided into four categories: "Non-Regulated", "Exempt Replaced", "Regulated Replaced", and "New". See explanations below:

Non-Regulated Impervious Surface:

All impervious surface area installed prior to July 7, 1977 or prior to the date the parcel was annexed into the City from Snohomish County that will remain unchanged during the site redevelopment.

Replaced Impervious Surface:

All impervious surface area on the project site existing at the time of application that is proposed to be ***removed***[3] and re-established in the same footprint. This does not include impervious surface removed for the sole purpose of installing utilities or performing maintenance.

"Exempt Replaced" - Some of the replaced impervious surface may be "Exempt" if it meets the following condition:

On single-family residential parcels only: the replacement of a driveway, walkway, or similar surface in the same footprint in which it was originally installed prior to July 7, 1977 or prior to the date the parcel was annexed into the City from Snohomish County.

"Regulated Replaced" - All other replaced impervious surfaces on any parcel that do not qualify as "Exempt" are considered "Regulated."

New Impervious Surface:

All areas converted from pervious surfaces (native vegetation, etc.) to impervious surfaces and permeable pavements on a project site on or after July 7, 1977 or the date the parcel was annexed into the City from Snohomish County. See Figure-E for exemptions for sites located outside of Creek or Lake drainage basins.

[3] ***Removed*** refers to the removal of building down to bare soil or subgrade. Roof replacement such as re-shingling, is considered to be a maintenance activity and not considered replacing an impervious surface. For others surfaces, such as pavement, "removed" means the removal of concrete (PCC) or asphalt (AC) slabs, driveways, sidewalks or similar surfaces down to bare soil or base course. The pulverization in-place and replacement with a similar wearing course is considered replaced impervious surface. The partial grinding of surfaces for overlay (not down to base soil or base course) is considered to be a maintenance activity.

Land-disturbing Activity:

Activity that results in the movement of earth, a change in the existing soil cover (both vegetative and non-vegetative), or a change in the existing soil topography. Land-disturbing activities include but are not limited to clearing, grading, filling, excavation, and compaction of soils associated with structure stabilization and road construction.

Pervious Surface:

Any surface that allows the entry of water into the ground as it would occur in nature.

EXAMPLES

The following are examples of how to determine the "**Non-Regulated**," "**Exempt Replaced** ", "**Regulated Replaced**" and "**New**" impervious surface totals for a specific project. If you have any questions, please contact an Engineering Technician.

Example 1:

1972	House	1,200 square feet (sf) roofline
	Driveway (paved)	60 sf
1999	House Addition	400 sf
2004	Detached Garage	600 sf (no stormwater system has been installed)

Proposal: Garage Addition which adds 140 sf to the roofline

Total Non-Regulated: 1260sf - 1972 House and Driveway (both constructed ***prior to*** July 7, 1977)

Total New Impervious: 1140sf – 1999 House Addition, 2004 Garage Addition and Proposed Garage Addition (all built ***after*** July 7, 1977 and do not meet the definition of replaced).

Example 2:

1968	Single-Family House	1,500 sf roofline
	Gravel Driveway	400 sf
	Sidewalks/Patios	55 sf

Proposal: Pave existing gravel driveway with asphalt in same footprint (400 sf).

Total Non-Regulated: 1555sf – 1968 House and Sidewalks/Patios

Total Exempt Replaced: 400sf – 1968/Proposed Driveway area. The existing (pre-1977) gravel driveway is a combination of gravel and packed earthen material and therefore meets the definition of impervious surface. Paving the driveway in the same footprint as the original gravel driveway (constructed pre-1977) qualifies as "Exempt Replaced" impervious.

Example 3a:

1976	House	2,000 sf roofline
	Concrete Driveway	200 sf
1999	Garage w/concrete slab	300 sf

Proposal: New garage (300 sf) – demolish existing garage and slab; new garage will be same size and in same location as the original garage to be replaced. *There are currently no on site stormwater management systems.*

Total Non-Regulated: 2200sf – 1976 House and concrete driveway

Total Regulated Replaced: 300sf – The original garage & slab were built **after** July 7, 1977 and the existing surfaces were removed in their entirety (down to bare soil), therefore, no exemptions apply.

Example 3b:

1976	House	2,000 sf roofline
	Concrete Driveway	200 sf
	Garage w/concrete slab	300 sf

Proposal: New garage (300 sf) – demolish existing garage (*leave* slab); new garage will be same size and in same location as the original garage to be replaced.

Total Non-Regulated: 2200sf – 1976 House and concrete driveway

Total Exempt Replaced: 300sf – The original garage & slab were built ***prior to*** July 7, 1977 and only the structure is being removed, not the slab. As the existing impervious surfaces are not being removed down to bare soil the proposal qualifies as "Exempt Replaced" impervious.

Example 4:

1979	House	1,200 sf
	Gravel driveway	300 sf
	Patio/Walkways	100 sf
1989	Garage	250 sf

Proposal: Garage addition (200 sf) and pave existing gravel driveway with asphalt in same footprint (300 sf). *There are currently no on site stormwater management systems.*

Total Regulated Replaced: 300sf – The original gravel driveway is considered to be an impervious surface and was constructed ***after*** July 7, 1977, therefore, no exemptions apply.

Total New Impervious: 1750sf - 1979 House, patio/walkways, original garage and garage addition all built or proposed to be built ***after*** July 7, 1977.

Example 5:

1989	House	2,800 sf
	Driveway/patio/walkways	700 sf

Proposal: House addition (300 sf). *The 1989 improvements were approved with a detention system sized for 3,500 sf of impervious surface that was adequate under the provisions of the stormwater code in effect at that time.*

Total New Impervious: 3800sf – 1989 House, driveway/patios/walkways and proposed 300sf house addition.

*The 1989 house, driveway, patio and walkways were installed **after** July 7, 1977 with an approved on-site stormwater management system The existing system does not meet the sizing requirements of today's stormwater code for 3,500 sf of impervious surface area. In this case, there are two options available to meet the stormwater flow control requirements.*

Option 1: Install a separate stormwater management system (such as a storm detention system, infiltration trench or rain garden) sized to comply with current code for the new 300 sf house addition. If a separate system were to be installed to handle the runoff from the new addition then no changes to the existing system would be required.

Option 2: Direct all storm flows (existing and proposed) to the existing storm detention system *and* revise the existing system to comply with current code for all 3800sf of impervious surface area. The changes required in this scenario, for example, might result in adding additional pipe sections to the existing detention system.